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THE STUDY OF INSANITY.

Read before the Suffolk District Medical Society, Jan.
25th, 1868, by T. W. FISHER, M.D.

As a preface to any cases I may offer to the Society, I will present a brief review of certain recent ideas on the study of insanity. The method of investigation in this department has been too much based on metaphysical notions of the attributes of mind, which are difficult to harmonize with facts. While studying the phenomena of sensation, or motion, the student pursues the usual scientific method, but in the region of disordered ideas, his confidence fails him. His observation is baffled by the immaterial character of his facts; his customary tests are difficult of application, and he is confused by contradictory theories of the nature of mind—the various mental powers he has been taught to consider as distinct entities, almost, acting independently on the nervous elements, and being in no sense themselves the result of cerebral action. In other words, the tendency has been to exalt the soul, prematurely, out of its material connections, and to ignore its dependence on physical laws.

Whatever the causes, it is evident the inductive method has not been pushed in this direction to its just limits. Something was attempted by the phrenologists, but aside from a few general truths, their whole system has proved an absurdity; in fact, worse than absurd, since it served to strengthen the artificial division of the mind into distinct faculties, by giving to each "a local habitation and a name." For practical purposes, *where* is less important than *how* certain operations of the mind are effected.

It is generally admitted that *thought* is the proper function of the cerebral hemispheres. Besides other proofs, this belief is supported by a sufficiently distinct parallel, extending through the animal kingdom, between mental and cerebral development. As we ascend the scale of intelligence, the

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size and weight of the cerebrum increases, not only through the species of the lower animals, but through the inferior races of man. There is even a marked difference between extreme cases in the same race.

The microscope, so far, only shows us in the cerebrum nerve-cells and fibres apparently identical with the same elements of the cerebellum and spinal cord, and so distributed as to be in easy communication with each other and those of the ganglia below. It is a natural inference that their functions are similar, viz., to receive, modify and transmit impressions, to be modified by them, and, sooner or later, to re-act outwardly again. Keeping these known functions of the nerve-cell in view, we should proceed from its simplest mode of action in the cord up through the phenomena of sensation, sensori-motor and ideo-motor action to the more complex combinations of the realm of abstract thought. It is true, this line of investigation brings us no nearer a definition of that *force* which undergoes its wonderful evolutions in the brain. Upon the conditions of its manifestation, however, depend many questions of a practical nature which demand patient research in this direction.

The spinal cord is the seat of reflex action, when a nerve-cell responds directly to a stimulus from without. Its more important functions are of an organized character, the result of growth and education. Groups of cells are laboriously brought into concerted action; but, once organized, they respond to the lightest stimulus, and continue to act automatically. This power of retaining impressions may be called the *memory* of the nerve-cell, and is a constant attribute of it wherever found. The cells of the cord constitute a repository of the residua of all past actions, and easily respond in accustomed directions to stimuli from without, or from the sensory and cerebral ganglia above.

In similar manner, the ganglia at the base of the brain are organized by the impressions derived from the senses. They contain the residua of past sensations, co-ordinated in groups, according to the expe-

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rience of the individual. If one great avenue of impression is sealed, as in blindness, the organization is correspondingly imperfect. These ganglia also contain certain motor residua, the result of the series of reactions to sensation.

Superimposed, and in the most intimate connection with them, are the cerebral hemispheres. The conclusion that the evolution of ideas in the cerebrum proceeds under similar laws is unavoidable. It retains the organized residua of past ideas, as they of sensations and motions. Like them, it is subject to the laws of growth and education, whereby are rendered possible the complex functions of adult life. Like them, its operations are largely automatic. The brain of a child probably possesses a facility for development in directions pre-determined by his race and ancestry; but that it contains any innate organized ideas is somewhat doubtful. The impressibility of the nerve-cell at an early age is great, and the brain soon becomes furnished with simple and primary ideas, around which the results of longer experience cluster.

It is, of course, impossible to trace the formation of ideas through their proper cells, though the rate of progress of the mental impulse may sometimes be determined. The speed of thought does not depend on the ability to think of remote objects in quick succession, but on the time elapsing between the inception of the mental impulse and its termination. This rate varies much with different temperaments, and is always affected by cerebral disease. An idea travels easily by accustomed channels, and in its progress excites feeling in accordance with its character. It undergoes a process of selection, being readily received by certain cells and rejected by others. It may be absorbed, so to speak, and exist only in memory, in its effects on the cells through which it has passed, or it may eventuate in action.

It is probable the cerebrum can only act outwardly through the lower ganglia; that in the production of past sensations it only fires the train, as it were, which lights up the set pieces of the sensorium. In like manner, the final impulse of thought, or, in other terms, the *will*, can only eventuate in motion through the organized patterns of the motorium commune. The highest development of cerebral energy consists in the power of associating new groups of cells, whereby the mind becomes creative, which process we call imagination.

This very imperfect sketch of a subject

in itself obscure, is unsatisfactory, for the reason that the character of the cell metamorphosis is unknown. But we are equally ignorant of the phenomena of glandular action; and in the inorganic world of molecular changes, under the influence of galvanism for instance, the difficulty of the research should not prevent our applying the same method to the organ of mind which we use in other portions of the nervous system. In the study of insanity, instead of attempts to classify the particular groups of ideas affected, or the characteristics of the predominant emotion, we should try to discover the actual state of the nerve-cells—whether anæmia, or plethora, or want of tone, or foreign deposits, or eccentric irritation, or some other physical condition, is not at the bottom of their irregular action.

A degeneration in type in the cell itself is oftenest the cause of insanity. That hereditary form of it, constituting the insane temperament, lies at the foundation of at least one half of all cases. It shows itself in a state of unstable equilibrium and a tendency to independent and spasmodic mental action. In epilepsy, there may occasionally be seen a condition short of actual spasm, in which a slight cause, either moral or physical, will induce twitchings and erratic action. This is an exaggerated illustration of the constant state of the supreme nervous centres, in some cases of insane temperament. There is a prevailing condition of instability and eccentricity, strange tendencies of thought and action, and a general unfitness for social relations.

This temperament is not allowed its proper weight in the estimate of character. It is in reality at the foundation of the whole mental development, and responsible to a great extent for impulsive acts which overwhelm without warning the conscious nature of the individual. In favorable circumstances, it is to a great extent under control and disguised by the conventions of education and society; but when the mind is subjected to unusual tests, or when ill health impairs the power of resistance, it becomes the controlling force, impelling to all sorts of irregular outbreaks of speech and action.

The causes which precede this hereditary weakness are to a large extent physical, and are those which induce retrograde changes throughout the system. Scrofula, phthisis, syphilis, gout, rheumatism, intemperance, all play important parts. Causes may so affect the integrity of the nerve-cell as to suffice during the life of the individual.

dual to produce insanity. These also are of a kind to impair the quality of the nerve-cell, and to prepare it to yield readily to the shock which determines the mental overthrow.

The student who attempts a classification of actual cases of insanity will find no system exactly suited to his requirements. As might be expected from the continuity of the nervous centres and the general character of the causes of deterioration, the different forms will be seen blending, or succeeding each other, in endless variety.

The affective nature is the first to exhibit signs of disorder. Here again metaphysical distinctions have been allowed to tyrannize over the mind, in the emotions, as if they were faculties distinct in function and location from each other and from intellectual processes. It is more probable that each idea is accompanied by its own peculiar feeling. The emotional susceptibility of the nerve cell is affected in various ways. The prevailing type may be that of depression, or an increased sensitiveness to ideas of a gloomy character. There may be a general stimulation of mental action resembling partial intoxication. There is also a condition of progressive insensibility to mental stimuli. Another form consists in a want of feeling for the moral relations of ideas, with a strong inclination towards mischievous or wicked acts. All these conditions may exist without any incoherence of thought, or any delusion, the individual being often conscious of his mental disturbance. He may become the slave of impulses the most vile, or dangerous to himself, or others, and sincerely bewail his sad situation. He may commit crime with a knowledge of his guilt, and without the power to avoid it. It seems strange, in presence of these facts, which should be well known, that insanity without delusion is not recognized by English law, and that the practice of our courts so often ignores its existence.

In cases where the progress of disease is rapid, the affective stage may be unobserved. The emotion arriving at a certain degree of intensity, overwhelms the normal current of ideas and finds new and extraordinary channels. If the attack has a more gradual development, delusions may sometimes be seen, as it were crystallizing out of the prevailing morbid feeling. The patient seeks an explanation of its persistency in some external circumstance. The melancholic ascribes his depression to the burden of sin. The maniac attributes his joy to increased wealth, or accounts for his anger by detailing the plots of his enemies. If

his self-feeling is stimulated, he believes he is a king, or the Deity, even. The important fact all these phenomena teach, is the fundamental character of the affective faculties, and the secondary nature of ideational disorder.

The following case is an instructive one in this connection. C. H., seventeen years old, a Boston boy of fair intelligence, was arrested last summer for stabbing a young woman in the street. The crime was fully proved, but defence was made that he had been subject, for years, to a peculiar form of epilepsy, and that he was insane at the time of the assault. In spite of the testimony of experts, to this effect, and of an attack in the court-room requiring ether to control, the jury found him guilty, and he was sentenced to three years in the House of Correction, the judge knowing that he would there have the care of Dr. Walker of the Lunatic Hospital.

Oct. 12th, the day after his arrival, he had an attack in the work-shop, and was taken to the hospital of the institution. Mr. Kent, a resident student, describes him, as follows:—"Found him sitting in bed, and held by six men. Paroxysm had somewhat subsided. Eyes staring, pupils dilated, the right more than the left, tongue clear, face pale and anxious, skin cold and clammy, pulse hard to take, from the twitching of muscles. At times, decided opisthotonus. Mouth open, and breathing labored. While standing by him, he gave a shriek, and sprang up in bed, hammering the wall with his head. Hands firmly clenched. During subsidence of this paroxysm, seemed cataleptic. Cried once, 'O, my head!' Pulse, at this time, 120. Etherized with success, and ordered a mustard foot-bath and a cathartic."

13th.—Found the patient dull, but rational. Pulse 96, with intermission of every fourth beat. Action of heart strong, with some headache. Sent the patient to workshop, in order to test the case to the satisfaction of the authorities. Returned, in afternoon of same day, in a fit, which was again controlled by ether.

14th.—Tolerably quiet, but limbs twitch when disturbed or made to talk. Answers questions at random, by "yes" or "no," or "don't know." Pulse 120, and beats in triplets. Heart sounds exaggerated, with interval after third beat slightly prolonged. Constantly winking; pupils large, and occasionally partial opisthotonus. In the afternoon, pulse 96, and regular. Answers questions properly, but has no recollection of his condition yesterday. Feels very lame.

22d.—Has been quiet since the 15th, and is once more discharged to the shop. Is returned to the hospital in the afternoon in a fit. Was seen to sway to and fro on his seat, and rub his head, until he fell, and began to struggle with those who went to him. Had secreted a *fork* in his sleeve. Was put on the floor of an empty room, in the hospital, and watched. Rolled about, and pounded the floor with his head for an hour, when he became quiet.

29th.—Has been gradually recovering his strength and spirits since the 22d, and today is under moderate maniacal excitement. Jokes and cuts capers, and is anxious to go to work.

30th.—Spirits drooping. Has broken his bedstead, and sharpened two pieces of scrap-iron into knives. Has also secreted some pounded glass.

Nov. 15th.—Again excited. Says he is a "desperate fellow," and wants to kill somebody.

16th.—Spirits drooping.

Dec. 15th.—Seized with another attack of spasms, which recur every few minutes. Complains of sharp pain at upper angle of right scapula, and tears at it with his nails. One thumb flexed and one extended. Bends head back, and rolls over on to left shoulder, with his arms stiffly extended. Is conscious, and can talk. Rubbing shoulder at seat of aura gives relief. Ice increases the pain, while hot water is agreeable, and seems to diminish the violence of the spasms. Pulse irregular, as formerly. Ordered bromide of potassium, thirty grains three times a day, and a salt enema. Relieved of tendency to spasm in about six hours.

Jan. 23d.—Has had no recurrence of spasms, but is subject to great variation of spirits. Mind active and ideas fanciful, but without delusion. Pretends, in a playful manner, at one time, that he is Ajax, at another Achilles, and once that he was a "duchess in disguise," but without for a moment forgetting his identity. Complains of obscure pains about his heart, which omits the second sound at every fourth beat. The spasmodic symptoms will undoubtedly be controlled for some time to come by the bromide.

The interesting points in this case are: the similarly excitable condition of the cerebral and spinal centres, amounting, in both cases, to spasm, and producing epilepsy on the one hand and homicidal impulse on the other; and, secondly, the absence of delusion. As a case of epilepsy, it is peculiar in the retention of consciousness during the

attacks, the location of the aura, and the irregularity of the heart's action.

EXPERIMENTS AND OBSERVATIONS ON ABSINTH AND ABSINTHISM.

By R. AMORY, M.D.

ABSINTH belongs to the same family as the Chamomile, is ranked in the genus Artemisia, and bears the specific name Absinthium, wormwood. Its characters are well described in the standard botanical works, and to these I refer my readers. It exhales a very penetrating odor. The taste is bitter. M. Braconnot gives the following analysis of absinth:—Volatile oil, a resinous and very bitter substance, bitter animal matter, chlorophyll, albumen, peculiar starchy matter, animal matter of slight savor, and salt.

The preparations containing only the fixed principles are—essence or extract of absinth. R. Dried tops of absinth, pulverize coarsely, moisten with half its weight of water, treat by displacement, and evaporate the liquid to the consistence of an extract. This is the preparation I have used in the following experiments.

THERAPEUTICS.

"Absinth possesses in a high degree the same characters as chamomile. Independently of its stomachic properties, it has also a peculiar action as an emmenagogue and anthelmintic. As a febrifuge, absinth, or (more commonly) wormwood, possesses more power than chamomile, but only in intermittent nervous fevers, arising from some miasmatic influence, yet in no way can it compete with quinine in the prevention of these fevers. It has also been used with advantage in ascites, but always combined with potash and other drugs, whose diuretic effect is probably affected by its adjuncts rather than by itself. It also possesses strongly tonic action, so that it can be placed in the class of tonics. Its bitterness is proverbial.

"The poisonous and inebriating effects produced in those who drink the *liqueur* of absinth, or cream of absinth [more common in France than in the United States] is undoubtedly due more to the plant than to the alcohol. This *liqueur* causes, in a feeble degree, certain intoxicating effects as a bitter narcotic. [With this statement I do not agree, but am disposed to attribute this power to some other principle than the bitter narcotic, as will be seen in the experiments to be cited.] The wine of absinth is most

commonly employed as an emmenagogue and diuretic. There is also a distilled water and an extract, which is administered in doses of four to sixteen grammes" [one to four drachms].—*Trousseau and Pidoux*.

"Absinthism is a name given to the variety of alcoholism, whether acute or chronic, which is caused by the abuse of the liqueur called absinth. Absinthism is, more frequently than alcoholism, followed by mania, softening of the brain, or by general paralysis. This seems to be owing to the poisonous action of the essences which enter into the composition of this dangerous liqueur."—*Dictionnaire de Médecine, &c.*, par E. Littré et Ch. Robin [Nysten revised], edition of 1865.

However adulterated may be the liqueur sold under the name of *absinthe*, and that it is very commonly adulterated there is no doubt, the paralysis is probably due to alcohol affecting, secondarily, the action of the spinal cord, while the mania and softening of the brain may occur in the same manner; but the immediate effects, such as epileptiform convulsions and nervous debility—the former especially—are due to absinth itself. The alcohol, also, which constitutes a large portion in the composition of the liqueur, may produce its peculiar symptoms at the same time with those caused by the absinth itself.

My instructor and friend, Dr. Magnan, while an *interne* at the Hôpital Bicêtre, was led to this opinion by the peculiar symptoms presented in a patient at that institution, an account of which I will give as concisely as possible.

"A grocer at Paris was unfortunate in business and established a shop to sell wines at retail (*commerce de vins*), and soon got into the habit of taking a glass of cognac with his customers. This he did two years, and the consequence was enfeebled digestion and dyspepsia, with great pain in his stomach after eating. Finally, he began drinking *absinthe*, and found for a short time a stimulus to his system which he had before lacked, but in the morning vomiting, with great trembling of hands and tongue. His sleep was much disturbed by dreams and restlessness. Shortly after he had begun this last vicious habit, often taking five or six glasses of liqueur during the day, he attended a funeral ceremony at a church, and, in the very midst of the services, he was seized suddenly with a fit, *losing consciousness*, falling down, biting his tongue, making grimaces, agitating his extremities, and foaming at the mouth. After recovering from this attack, he was taken home,

but did not give up his bad habit, though oftentimes he had vertigo and other symptoms. After another of these attacks he was taken to the Hôpital Bicêtre, from the records of which I make the following extracts:

"1863, Oct. 30th. He remains very uneasy, after crying all night. In the morning is found in his bed in a straight jacket, pale and bloated, with a leaden expression of countenance, his face covered with sweat, his tongue torn on its borders on both sides, the belly hard from constipation, urine reddish. The albumen, deposited by heat and nitric acid, fills half the tube. Sensibility throughout all the body exalted. Has a great deal of trembling of the arms, legs, lips, and tongue when extended. The voice is feeble; speech hesitating and trembling. He is agitated; keeps his eyes wandering; is incoherent; changes his conversation every moment; has no idea where he is; thinks he is in the street, at his own house, in his shop; imagines he sees his wife and children; warns them of a menacing danger; turns himself; sees at the foot of his bed rats, spiders; sees the flames of a fire; is frightened and cries out. He passes the whole time in the midst of such anguish. Laudanum, 30 drops, prescribed.

"Nov. 1st. No sleep during the night. Hallucinations continue. Complains of a pain in each side of his chest; frequent respiration; no cough; percussion and auscultation normal; pulse frequent and intermittent; the pulsations of the heart very irregular and jerking—urine still reddish, but less albumen. After this he improved, and left the hospital on the 20th, with an amelioration of symptoms, viz.: less trembling of hands, voice clear, expression of face more natural with some color: digestive functions good, sleep calm, and not the least trace of albumen in the urine.

"1864, April 28th. Cl. . . . brought back to the Hospice Bicêtre. Reports he has not ceased drinking since his departure; drinks less of brandy and still keeps to the *absinthe*. Has been intoxicated several times, and in these moments became very irritable and struck his wife. He has had an effusion in the chest, which confined him to his bed three weeks, and his health has been so bad as to oblige him to give up working. Five days ago, after drinking freely of *absinthe*, he had a fit like the two he had last year. At his entrance he appeared in the same condition as before, with, perhaps, more frequent hallucinations, pain at epigastrium, but no constipation.

"April 30th. Symptoms of pulmonic trouble, subcrepitant râles, dulness, &c. Urine troubled, and leaves albumen in test tube to the extent of one-fifth.

"May 2d. The albumen begins to disappear.

"8th. No more hallucinations or dreams.

"20th. Convalescent; leaves the Hospital; cough has ceased; trembling of hands and tongue also disappeared. Has not been heard of since his departure."

In the first part of the foregoing case, we see the action of alcohol, called alcoholism, which induces him to drink *absinthe*, and now he has nausea in the mornings with vomiting, fainting, etc. He passes nearly a year in this state, and suddenly has an attack resembling epilepsy, viz.: distortion of the features, convulsions, foaming at the mouth, biting his tongue, and complete loss of consciousness for the moment. But, while at the Hospital, not a symptom occurred with a suspicious tendency to epilepsy. This same thing happens again, which induces his return to the Hospital, where no recurrence of the convulsions took place.

What is the cause of these epileptiform convulsions? Is it hereditary, traumatic or constitutional? There is no evidence to show this. Whilst at the hospital, he had no attack of epilepsy, and prior to his habit of drinking *absinthe* he had none. He was 32 years old. He had met with no accident in which the cranium had been injured; and, in fact, every circumstance points to *absinthe* as the cause. It has generally been supposed in France that epilepsy was caused sometimes by alcohol, but this man had been drinking *eau de vie* for two years, and no such symptom had occurred until after he had taken up the habit of drinking *absinthe*.

Now, the principal substances contained in the liqueur called *absinthe* are, generally, alcohol and the essences of anise and *absinth* (wormwood). The other substances vary in their proportions, and produce none of the symptoms noticed in absinthism. Each of these substances has been subjected separately to the test of experiment on animals, and the most conclusive results have been obtained. In the first experiment six grammes (3*iss.*) of essence of anise was introduced by the aid of an oesophagean sound into the stomach of a fasting dog, with no apparent abnormal conditions, and afterwards, by the same method, 22 grammes (3*vss.*), and there was neither diarrhoea nor vomiting, and not the slightest symptom of a convulsion. He had some frothing at the mouth, an accelerated

respiration, but he was perfectly bright, jumped about, played round, and ate with voracity. These peculiar symptoms lasted but half an hour, and eight hours after he had a soft stool, which exhaled a strong odor of anise.

With regard to *absinth*, there have been difficulties in experimenting on a dog, as vomiting and diarrhoea have occurred, preventing the absorption of the poison; but by the use of the oesophagean tube, capsules of gelatine, or by wrapping the drug in meat or soft bread, M. Magnan succeeded in keeping the *absinth* long enough in the stomach to produce its effects.

Experiment, 8 hrs. 50 min.—A dog was made to swallow six capsules of flour and bread, enclosing about four grammes of essence of *absinth* (3*i.*).

9.25.—Had a chill. Discharged urine four times in succession.

9.30.—Seems uneasy; casts his eyes round, growls, runs into a corner, folds himself up, sits up, trembles all over, turns and presses his head against his chest; winks his left eye, which is turned towards the assistants, as if he was about to attack them.

9.33.—Jumps against the door, strives to escape; is taken with tonic convulsions, falls upon his left side, turns himself round towards the right in the form of a bow, raises his legs and brings them together in such a way that the animal touches the ground only with the middle of his left side. In twenty seconds, clonic convulsions very quick and irregular, frothing at the mouth, stertorous and frequent respiration.

9.36.—Is stretched on the ground, remains motionless for some seconds, then moves his paws as if running; struggles vainly to rise. At the end of a minute he remains stretched out, without movement. Respiration noisy and frequent. The mouth is stretched open, the tongue hangs out.

9.40.—He raises his head, looks round, rises, and crouches under a chair.

10.—On being offered some meat, he approaches and eats. He is put in the garden; he runs and jumps, has a hard stool, of the size of a horse-chestnut, and streaked with blood.

He afterwards recovered.

March 31st.—Another experiment, with the same dose, produced the same effects, though rather more violent, from which the dog recovered.

As guinea pigs do not vomit, the effects of *absinth* are more easily produced on them.

Experiment, June 6th, 1864, 9 hrs. 10

min.—Three grammes of absinth (45 grs.) were injected, by the aid of a sound, into the stomach of a guinea-pig, fasting.

9.20.—Attempts to vomit.

9.45.—Slight convulsive shocks, at first in the head and then in the rest of the body. Tonic convulsions, with slight shocks; hugs the wall of his cage, strongly contracting his muscles; tries to escape, grasps the sides of his cage, looks frightened, remains motionless, bites convulsively the sides of his cage, walks only by bounds and convulsive jerks.

9.50.—Shocks like those caused by electricity. Tonic convulsions; he curls himself over, the head bent towards the side. Clonic convulsions. Is stretched out, with his paws scratching the ground and beating the air; frequent respiration; he sits up; convulsive shocks repeated; he makes a bound, and then gathers himself up. Aspect stupid; breathlessness. He does not eat during the day, and breathes with difficulty. Occasionally cries out sharply. Shocks in the muscles continue.

June 7th.—Stupid; will not eat.

8th.—Dies at 11 o'clock.

Autopsy (two hours after death).—Nervous centres, especially the spinal cord, congested. They present, in places, some infiltration of blood, giving to these parts an appearance of congestion. The heart is soft and flaccid, the right cavities filled with black clots, soft and semi-fluid; the left ventricle shows a little clot, soft and black. Stomach strongly vascular, and contains a greenish mixture, smelling strongly of absinth. The liver is congested and friable. The gall-bladder is very much distended by a yellowish liquid, in the midst of which float some flocculi, having the appearance of albumen. The kidneys present no intense vascularity."

The guinea-pigs which have been forced to take a dose of absinth in less quantity than 1:50 grammes (22 grains), did not die, but exhibited certain muscular shocks or twitches, but no attacks similar to epilepsy.

Rabbits which have taken less than 2 grammes (30 grains) exhibited drunkenness, stupor, insensibility. On being pricked or pinched, they did not stir; they allowed themselves to be lifted up, and fell in a mass. Before many minutes they recovered, and appeared as before the experiment.

Cocks and hens exhibit no abnormal symptoms after the ingestion of essence of absinth or anise in doses even of 4 grammes (3*i.*).

Experiment, June 27th, 1 o'clock.—A mixture of 3 grammes of alcohol (45 grs.)

and 2 grammes of essence of absinth (30 grs.) is injected into the stomach of a guinea-pig apparently in good health.

1.20.—Motionless.

1.25.—Totters; the posterior extremities drag along one side, first to the right and then to the left; the animal stops, makes some steps, and lets the posterior half of the body fall on one side, the anterior remaining upright.

1.30.—Sensibility preserved; makes several steps without falling.

1.55.—Respiration frequent, jerking; sometimes a quick contraction of the diaphragm.

2.10.—Twitches in head and back; keeps in a corner.

2.20.—Series of convulsive twitches, occurring especially in the anterior part of the body. He gathers himself up; has muscular shocks, which grow stronger, and finally he falls on the side and remains motionless.

4.—Stupor; sensibility obtuse, especially in the posterior part of the body.

The next day, the respiration grows more frequent, and a serous liquid is discharged from the nostrils. Respiration each moment becomes quicker and more difficult, followed by death.

Autopsy (three hours after death).—Congestion of cerebrum and spinal cord. Right lung hepatized throughout; left lung congested. Right cavities of heart filled with soft and black clots; nothing in left cavities. Kidneys congested. Stomach filled with a greenish fluid; mucous coat softened.—MAGNAN.*

[To be continued.]

PRESERVING ANATOMICAL SPECIMENS.—In a letter to the *Chicago Medical Journal*, Prof. Freer writes:—"I saw a preparation by the phenique acid method, which was perfectly pliable, and plump as a recent dissection; even the small joints of the fingers were as flexible as in the most recent state, and, at the same time, the specimen—which was a well-dissected arm—was as dry as leather, and without odor, other than from the acid, which is not at all disagreeable. This is something worth looking into—if the acid is not too expensive, the method is invaluable for medical colleges. The process by tannic acid must be very tedious and expensive."

* Vide *L'Union Médicale*, Ang. 4th and 9th, 1864, Nos. 92 and 94. "Des Accidents Déterminés par l'Abus de la liqueur d'Absinthe."

Hospital Reports.

BOSTON CITY HOSPITAL.

Reported by F. C. ROPES, M.D., Surgeon to Out-patients.
(Service of Dr. BORLAND.)

Suppuration in the Peritoneal Cavity.
C. C., wt. 45, night-nurse in the City Hospital. Has acted as nurse for about two years. Has never been very robust, but generally well enough to attend to her duties. Has had occasional attacks of digestive disturbance. Was treated in this hospital in 1865 for cholera morbus.

Nov. 21, 1867.—Last night, while on duty, was seized, without known cause, with violent pain in the left side, at about the eighth rib. Has been very constive for several days. Pulse rapid, of sufficiently good quality. **R.** Pil. cathart. comp., No. iij. **R.** Morph. sulph. gr. $\frac{1}{4}$, in solution, to be injected subcutaneously.

22d.—Bowels freely moved. Both chests resonant on percussion. Respiration somewhat rude at base of left lung. Jacket poultice.

23d.—More comfortable.

24th.—Numerous loose dejections yesterday, with some pain in the course of the colon. Some tenderness in hepatic region.

25th.—Feels better. Pulse 116. **R.** Pulv. opii gr. i. every six hours.

26th.—Tongue coated, red and dry. One full dejection. Respirations 16 per minute. No cough. Pulse 104. Abdomen tympanic, and quite tender in region of umbilicus. Opiate fomentation to abdomen.

27th.—Tongue dry and coated. Abdomen continues tympanic. Pulse 100. Eats but little. **R.** Spir. vini Gallici $\frac{1}{2}$ ss. every three hours.

28th.—Improved. Tongue moist. To take only two opium pills daily. Pulse 92. Respirations 16. **R.** Vini Xericci $\frac{1}{2}$ iv. daily.

29th.—Pulse 104. Tympanites troublesome.

Dec. 1st.—Looks better. Tongue dry and red; smooth, and transversely fissured. Tenderness on pressure in left hypochondrium.

2d.—Abdominal pain continues. Abdomen distended. Fluctuation detected.

3d.—Tongue dry and fissured. Pulse 108. Abdominal pain continues. Turpentine stipes to abdomen.

4th.—Respirations 32. Pulse 104. Face pale. Skin moist. Abdomen still tender, principally on right side. Amount of distention as heretofore.

5th.—Pulse 120. Tongue clean and moist. Some diarrhoea last night. Flaxseed tea, with lemon juice, as drink.

6th.—Pulse 120; one intermission noticed. Skin warm; sweating. Omit opium pills. **R.** Morphia sulphatis gr. ss. morning and evening.

7th.—Better. Pulse 112. One solid dejection. Omit morphia. Is disposed to make false statements and to exaggerate her symptoms.

8th.—Aphthous patches on tongue. To use a saturated solution of chlorate of potassa as gargle. To have egg-nogg.

9th.—Vomiting at time of visit; attributed to the egg-nogg. Omit it and take milk-punch.

10th.—Tongue red. Numerous aphthæ seen.

11th.—Tongue better in appearance.

14th.—Sweating profusely. Slept little last night. Pulse 112. **R.** Acid. sulph. aromat. gtt. xv. ter die. Acidulated water as drink.

16th.—Skin more dry. Pulse 100. Comfortable.

18th.—Circumscribed redness, fading on pressure, is observed below umbilicus; where, also, is tenderness on pressure. Apply a compress, wet with alcohol and water, to part.

20th.—Some swelling, where redness exists. Apply a poultice.

25th.—Dr. Cheever cut down on the affected spot, punctured, and evacuated $\frac{2}{3}$ pints of sero-purulent fluid. A director, being introduced, passed freely into the abdomen.

26th.—Doing well every way. Comfortable. Carbolic-acid wash (3iss. to Oj.) to wound.

28th.—Quite bright. Makes no complaint.

31st.—Pulse 108. Sweats profusely. Orifice made by knife re-opened, and $\frac{3}{4}$ xviii. of purulent fluid discharged.

Jan. 2d, 1868.—A pint of the same fluid escaped to-day.

6th.—Abdominal cavity is washed out with warm water twice a day, and about $\frac{3}{4}$ ij. of pus removed each time.

11th.—Aspect good. Condition of abdomen as heretofore.

15th.—Injections into abdomen continued. Comfortable. Pulse 120.

20th.—During the past three days, a solution of half a grain of permanganate of potassa to one pint of water has been daily injected. Slight stinging sensation produced.

Feb. 2d.—Condition rather less favorable.

Appetite not so good as before. At her own request, was discharged, not relieved.

REMARKS.—The pathology of the above case is not clear. The patient, probably after too much night-work, was seized with very obscure abdominal symptoms, appearing to point to sub-acute peritonitis; yet no cause for peritonitis could be found. And in peritonitis, too, it is extremely rare for the fluid effused to be purulent, and to find its way to the surface and point in the abdominal walls. We know that abscess of the liver may do this, or an abscess communicating with the intestine. But in the former case, we should expect a different history from the present, and more acute symptoms. Also, the abscess would not distend the whole abdominal cavity, but would appear circumscribed, in the region of the liver. Then, too, jaundice would probably have occurred at some time, and bile might be discharged with the purulent fluid. A fecal abscess would, of course, have a faecal odor. Unfortunately, we have no account of the urine. This might or might not have aided the diagnosis. But unquestionably, had there been any symptoms referable to the urinary organs, they would have been recorded. Dropsy of the kidney may, we know, occur so as to produce an immense tumor and complete atrophy of the organ. But in such a case, the fluid contained would be composed, partly or wholly, of urine. There is an affection called "peri-nephritic abscess," of which a case was lately treated by Dr. Cheever in the hospital, and another was diagnosed in the out-patient department, and admitted and operated on, also by him. In both these cases, a large tumor was found, and was opened, in the *back*; and when we consider the anatomical relations of the kidney, it certainly is difficult to conceive that pus forming in the neighborhood of the kidney could *possibly* point in the walls of the abdomen, *anteriorly*. In short, the above hypotheses have been taken up simply to illustrate, if possible, what the diagnosis in the case before us was *not*, rather than what it *was*. When the opening was made, Dr. Cheever did not suppose that he was doing more than opening a collection of fluid which had formed in the abdominal walls; and it was only after the opening had been made, that it was discovered that a director passed freely into the cavity of the abdomen. It certainly seems surprising that so extensive a serous cavity could thus be opened to the atmosphere for so long a time without a fatal inflammation ensuing; but there are not wanting occasional

cases to prove that it is possible for a permanent opening into the abdomen to be established, unattended by a fatal result. It will doubtless be interesting to follow out this case, if the opportunity be furnished.

MASSACHUSETTS GENERAL HOSPITAL.

Surgical Operations for the week ending February 8th.
Reported by MESSRS. H. H. A. BEACH and
THOS. WATERMAN, JR.

1. Epithelial Disease of Rectum. Dr. H. J. BIGELOW.—Female, wt. 46. For six years had had more or less oozing of blood from rectum. No pain. An examination with speculum disclosed a diseased mucous surface of nearly triangular shape, extending up the rectum two inches and occupying one third of its circumference. Two double sutures were passed under the growth at right angles to each other, and tied in a channel previously cut in the sound mucous membrane, strangulating it in four sections.

2. Dislocation of Hip-joint. Dr. H. J. BIGELOW.—Male, wt. 40. Fell from a horse-car and struck upon his right hip. Upon entrance, the limb was shortened one inch, the foot inverted and the knee turned inward. Behind the acetabulum, the head of the femur was felt. Circumduction outward, consisting of flexion, abduction and eversion, was twice rapidly performed without success, owing, as Dr. Bigelow remarked, to the narrow laceration of the capsule. Dr. Bigelow now passed the head of the bone across to the thyroid foramen, in order to increase this laceration, and the dislocation was then reduced from the dorsum by a repetition of the previous manoeuvre; the whole time consumed, from the moment of handling the limb, being one minute and forty-five seconds. The reduction by Dr. Bigelow of the last previous dislocation in this hospital occupied one and a quarter seconds, the time lost in this instance resulting from the insufficient laceration of the capsule; also, in part perhaps, to the prominence of the border of the cotyloid cavity.

3. Extravasation of Urine. Dr. S. CABOT.—This patient was the man operated upon by perineal section, and reported in the JOURNAL of Feb. 6th. After the operation he was chilly, but had no distinct rigor. Two days after, he had high fever, coated tongue and anorexia. The scrotum was as large as a cocoa nut, with a purple patch on the left side. As the patient had been negligent about passing his water through the catheter, it was inferred that the urine

had entered the cellular tissue by means of the false passage alluded to in the original operation. Two long incisions were made into the scrotum, and the cellular tissue found in a sloughy condition.

4. *Tumor of Leg; Amputation at Knee-joint.* Dr. H. J. BIGELOW.—Male, at. 52. Eight years ago, a tumor commenced to grow midway between the ankle and the knee. It gradually increased in size, without pain, until about two months ago, when he commenced to have lancinating pains in its region at night. The tumor was firm, with the exception of a small spot, about an inch in diameter, over the summit of the lower and more prominent portion, where there was a sense of fluctuation. It was of the size of a cocoa-nut, and occupied the calf of the leg. The leg was amputated through the knee-joint by making a semi-lunar incision across the front of the joint, opening into it below the patella, and afterwards forming a long posterior integumental flap. The patella was dissected out, and the articular surfaces of the condyles of the femur removed by the saw.

5. *Excision of Knee.* Dr. S. CABOT.—This woman, 52 years of age, had disease of the knee-joint and abscesses, five years ago. The leg is now flexed at a right angle with the thigh, and there is bony ankylosis. The patella is firmly united to the condyles of the femur. A semi-lunar incision, parallel to the articular surface of the tibia, was made from the outer to the inner hamstring tendons over the front of the joint, and the flap thus formed dissected upwards. A V-shaped piece of bone was then excised, including the ends of the femur and tibia and the patella. All these were found fused into one piece of bone. The leg was then extended to nearly a straight line, and the tibia and femur retained in apposition by a silver wire. The limb was then placed in a McIntyre's iron splint, and carbolic acid and linseed oil applied to the wound on cotton wool. The bones were in a state of fatty degeneration, and there was a cavity in the cancellated portion of the head of the tibia, filled with liquid fat, through which the finger easily passed down into the medullary canal.

6. *Excision of Breast; Anæsthesia by Nitrous Oxide Gas.* Dr. H. J. BIGELOW.—Female, aged 52, had lancinating pains about and in her breast for eleven months. Ten months ago, a small, hard tumor appeared just outside the nipple, and has steadily increased until the present time, when it occupies nearly the whole gland.

It is hard, not adherent to the muscle beneath nor the integument above, excepting a space about two inches in diameter in the vicinity of the nipple, which is retracted. No enlargement of axillary glands. Patient, being placed upon the operating table, was made to inspire nitrous oxide gas through a three-valved inhaler, two valves of which were self-acting, one communicating with the gasometer and the other with the atmosphere of the apartment for expiration. The third was controlled by the administrator, L. D. Shephard, D.D.S., by which atmospheric air was admitted when deemed necessary. After a few inspirations the patient became insensible, and in two and a half minutes the operation was commenced by Dr. H. J. Bigelow, and the breast was excised. Nineteen minutes after the inhalation of the gas was begun, the operation was completed and the wound dressed, when the administration was discontinued. In a few minutes, the patient regained her senses, and replied to questions. During the operation, the patient made frequent outcries, and at no time were the muscles relaxed. The face did not exhibit marked lividity, but the blood that escaped from the arteries was of inky blackness. Four hours after the operation, the patient testified that she knew nothing of it. No nausea or other unpleasant symptom supervened. "There was some lividity of the face, but the striking feature of the operation was, what has been well termed in the above account, the inky blackness of the blood, a color far darker than I have ever seen in blood under any circumstances, and altogether darker than occurs in asphyxia from inhalation of ether, where the face is much more livid. Other noticeable circumstances were, the muscular rigidity and the incessant moaning of the patient, who, however, as it afterwards proved, knew nothing of the operation. Altogether, the insensibility, though complete, was far from tranquil or agreeable. But there was no subsequent vomiting."—(Note by Dr. H. J. Bigelow, Hospital Records, vol. cxxxiii., p. 154.)

7. *Cancer of Lip.* Dr. S. CABOT.—The disease, of nine years' duration, had been removed by caustics three times. There was no implication of the lymphatic glands. It was excised, and the edges united by sutures.

8. *Dislocation of Elbow-joint.* Dr. H. J. BIGELOW.—Female, at. 32. Duration, six weeks and six days. Had had no treatment of any kind (no attempt having been made to reduce it). Dr. Bigelow decided, upon examination, that both radius and ulna

were dislocated backward, the bones bearing to each other their normal relation. The adhesions were thoroughly broken up by flexion, extension, abduction, adduction and rotation. The dislocation was then reduced by extension, and limb placed upon an internal angular splint.

[To be continued.]

Bibliographical Notices.

Consumption in New England and Elsewhere, or Soil Moisture one of its chief Causes. Address delivered before the Massachusetts Medical Society. By HENRY I. BOWDITCH, M. D. Second edition. David Clapp & Son. Boston, 1868.

This paper is widely known in this country. The purport of it is that consumption is not equally diffused throughout New England, where its ravages produce such a fearful total of mortality; but "that there are some spots which have very little of that scourge of the human race, while in other places, and even in particular houses, it prevails to a frightful degree; and moreover that these spots may be perhaps within a very short distance of each other." He has collected a wide array of facts to prove that "dryness of the soil in the surroundings of any place is the prominent characteristic of the former, or of places comparatively free from consumption; while dampness of the soil characterizes the latter, or as they may be aptly called, consumption-breeding districts."

Dr. Bowditch contends that it is not *cold* combined with moisture which makes the difference in the rate of phthisis in the different spots. "The assertion," he says, "even if true, that consumption decreases from North to South in this country, is no proof for or against the question whether dampness of soil causes phthisis." (Note on page 10 of the Preface to the Second Edition.)

Subsequently to the publication of the first edition of the address, the author received, among other letters in commendation of it, the following:—

PAVILION, Jan. 11, 1863.

MY DEAR DR.—I have but just had time within a few days to go over your pamphlet in such a way as to satisfy myself. I think you have made out your case as satisfactorily as any point in so obscure and complicated a subject as the causes of disease,

can be made, and it is surprising to me that any one can hesitate to admit that you have made a very strong case—at least strong enough to be made the foundation of advice in practice. I do not hesitate to act upon it, and should consider myself criminal not to do so. . . .

I am always very assuredly your friend,
Dr. Henry I. Bowditch. JOHN WARE.

SURGEON GENERAL'S OFFICE,
Washington City, D. C., }
March 6, 1863.

DEAR DOCTOR,—. . . In tracing the connection between moist or wet soils and consumption you have gone one step, and an important step, beyond my own published conclusions, but my professional experience, and, I may add, my sad personal experience, corroborate your views, and make me willing to endorse them fully. . . .

Yours, with much respect,

RICHARD H. COOLIDGE.
Henry I. Bowditch, M.D., Boston, Mass.

To the Secretary of the International Medical Congress, held in Paris in 1867, Dr. Bowditch addressed a letter, with a view of inducing that body to appoint a commission to investigate the question—deemed by him settled for New England—as to the geographical distribution of phthisis in proportion to moisture of situation. His communication—containing a perfectly clear and methodical statement of the matter—was misunderstood by the Secretary, and, in that gentleman's report, not only mis-stated, but unintentionally travestied.

Dr. Bowditch's paper, among other works, it was said, "established that bad hygienic conditions, bad nourishment, insufficiency of air, light and exercise, were the principal causes of phthisis." What a novelty! Dr. Bowditch made "not a single allusion to any of the causes of phthisis mentioned in the above extract."

In England recent investigations have gone far toward confirming the conclusions of the address before us, and yet in the published reports the precedence of Dr. Bowditch as the originator of the alleged discovery has been entirely ignored! Dr. Buchanan had been directed in 1865 and '66 "to investigate the effect of drainage works," &c., in twenty-five towns in England, containing an aggregate population of 600,000 souls, "where structural sanitary works had been most thoroughly done, and had been longest in operation." He found there had been but little apparent

influence produced on the prevalence of pulmonary affections excepting pulmonary phthisis, but that "the novel and most important conclusion suggests itself that the drying of the soil which has in most cases accompanied the laying of main sewers in the improved towns, has led to the diminution, more or less considerable, of phthisis."

The Privy Council has now taken up the subject; yet that the attention of observers abroad had been called to the paper under consideration, can be proved by citations from letters (ante-dating Dr. Buchanan's Report) of eminent authorities abroad—such as Dr. Farr, so long connected with the Registration of England; Dr. Mühr of Göttingen, and Dr. Martin of London, authors of works on Climatology. The London *Medical Times and Gazette* of Feb. 27, 1864, it may also be mentioned, gave an analysis of the main features of the address.

Now, whether the proposition with reference to soil moisture as a cause of consumption shall become generally accepted as a law of science or not, we claim for Dr. Bowditch the authorship of the *Bill* in its favor, now, as the politicians say, "ordered to be engrossed."

We are indebted to Dr. Bowditch for the following additional item:—

"While these sheets are being bound, I find in the London *Medical Times and Gazette*, Dec. 14, 1867, page 651, a reference to an article in the *Journal de la Société de Statistique de Paris*, by Dr. Gross, of Berne, on the 'Geographical Distribution of Phthisis.'

"This is a very valuable document, and in it I find the following remarks. After having alluded to the fact of the comparative immunity from phthisis enjoyed by those living on high ranges of mountains, Dr. Gross says:—

"But there is an atmospheric element which does exercise an unfavorable influence in respect to the prevalence of phthisis, and that is *humidity*. Nearly all the countries and localities in which phthisis has been noted as frequent, are distinguished more or less by great humidity, whilst those that are free from the disease have generally a very dry atmosphere, either by reason of their great elevation or by great degrees of cold."

P.

TOTAL deaths in San Francisco, Cal., in December, 217; from phthisis, 35. Population, 132,000. Rate of mortality, 1.90 per cent.

Medical and Surgical Journal.

BOSTON: THURSDAY, MARCH 5, 1868.

ON SYMMETRY AND HOMOLOGY IN LIMBS.

In describing symmetry, Prof. Jeffries Wyman* uses the following language:—

"Anatomists who have compared the fore and hind limbs of man and animals, have mostly described them as if they were parallel repetitions of each other, just as are any two ribs on the same side of the body. By a few they have been studied as symmetrical parts, repeating each other in a reversed manner from before backwards, as right and left parts do from side to side. We have adopted this last mode of viewing them, because, though open to grave objections, as will be seen further on, the difficulties met with are, on the whole, fewer than in the other, and because too, it is supported by the indications of fore and hind symmetry in other parts of the body.

"Among animals, two organs or parts, generally speaking, are said to be symmetrical when they are situated on opposite sides of an axis, and are alike in form and size, but one is the reverse of the other, as is everywhere obvious in those which are right and left."

He then goes on to review the opinions of other authorities, and explains a most ingenious comparison between symmetry and polarity, as follows:—

"In every complete series of magnetic curves formed by particles in a polar condition, there are two neutral lines, one extending lengthwise of the magnet, so that the curves formed may be divided into right and left; secondly a transverse one, the particles on each side of which form the north and south curves, or which for purposes of comparison might be called fore and hind curves. In the right and left series those which are on one side of the long axis are symmetrical with those on the other and not in themselves, and in the north and south series those on either side of the transverse neutral line are symmetrical with each other, and not in themselves.

"If these curves are projected on paper, and this be folded on the line of the longi-

* On Symmetry and Homology in Limbs. By Jeffries Wyman, M.D. Reprinted from the Proceedings of the Boston Society of Natural History, vol. xi., June 5, 1867. Boston: A. A. Kingman, 50 Bromfield Street.

tudinal, or north and south axis, the curves of opposite sides or opposite ends will correspond as right and left hands or other double organs do when applied to, or placed opposite each other. The same is true of the north and south curves when the paper is folded on its transverse axis.

"The distribution of particles just described, corresponds, first, to all that we designate as right and left in normal development; second, to all that we designate as fore and hind with reference to the long axis of the body, and which is characterized by symmetry in structure.

"Not only is there this analogy between the distribution of matter around a magnet, and that around the nervous axis of the normal embryo, but the analogy is still more striking in the curves formed by the combined action of two adjoining magnets and the appearances found in more or less double monsters. . . .

"In comparing the results of the symmetrically acting force in animals with a polar force like that of magnetism, it is not intended to imply that the two forces are same, but only that they have like modes of acting, and that when left to themselves undisturbed by other influences, each tends to produce symmetrical figures. The type or general idea of any of the double monsters may be imitated by the combined action of two magnets."

No experiment is more striking than the above, which we have seen Prof. Wyman perform, with magnets and particles of iron, and the human fetus, normal and malformed, side by side. It appeals at once so directly to the senses, that we hardly wait for the assent of the intellect before yielding to a conviction of its truth.

Passing to the subject of Homology, he gives Owen's definition, as follows:—

"Owen defines a homologue to be 'the same organ in different animals under every variety of form and function.' When parts are repeated in the same animal, not from right to left, but from before backwards, either on the middle line of the body, as the vertebrae or sternal pieces, or on the same side, as the ribs, such parts are homologous, but not in the same sense as when they are repeated in different animals: in the first case he calls them *homotypes*, and in the second *homologues*."

And afterwards adds:—

"If we are justified in accepting the conclusions set forth in this paper, then by an application of them the homotypes in

the two limbs may be readily determined, for those parts will be homotypes which have the same relative position, and are symmetrically placed with regard to each other."

As to the extremities, in speaking of the homology of the humerus and the femur, he says:—

"All agree that these two are homotypes, the only question is whether they are to be compared as parallel or as symmetrical bones; this answered, the parts which correspond are easily determined. As has already been stated, the majority of anatomists describe them as parallel repetitions. One of the difficulties which is encountered in this mode, is the fact that the knees and elbows in all animals are bent so as to form angles pointing in opposite directions."

But according to his own theory:—

"If the two bones are supposed to be symmetrical repetitions, no difficulties arise. They will have the position which is natural to them in the animal series; the axis of the humerus will incline backwards, and that of the femur forwards. The articulating convex surfaces of the lower end of the humerus will face forwards, while those of the femur will face backwards. The back of the humerus, which is on the side of the extensor muscles of the forearm, will be opposed to that part of the thigh which is on the side of the extensor muscles of the leg."

As to the homotypes, he believes that "the radius is homologous with the fibula; the ulna is homologous with the tibia, and the patella, as a sesamoid bone, does not belong to the skeleton at all."

Tracing out his principle still farther, we have the following bones homologous in the two limbs:—

Pisiform	Scaphoid.
Pyramideale	Os calcis.
Lunare	Astragalus.
Scaphoid	1st cuneiform.
Uneiform	2d cuneiform.
Magnum	3d cuneiform.
Trapezoid	Cuboid.
Trapezium	

We have neither the ability nor the space to pursue these ingenious reflections farther. "It is in her monstrosities," says Dr. Wyman, quoting from Goethe, "that Nature reveals to us her secrets." Certainly no modern inquirer has searched her secrets more closely, or clothed his discoveries in more concise and modest language.

ON THE TREATMENT OF TYPHOID FEVER.

We find, in the London *Medical Times and Gazette*, Feb. 1, 1868, an article from J. Burney Yeo, giving his treatment of typhoid fever, which he considers more satisfactory than any other he is acquainted with. He states that he has had considerable experience in this disease, and of late, since adopting his present treatment, has had no fatal case when the patient was seen early.

Mr. Yeo's idea is that a fatal termination is due much more to the too rapid elimination of the morbid material present in the blood than to its direct effect upon the system; he says:—"We are recommended by some physicians to try and assist nature in her eliminative efforts. I believe it to be our duty to do precisely the opposite of this, viz., to strive to moderate and lessen this eliminative action." If the patient is seen early, before there is much diarrhoea or abdominal pain, he advises a mild saline purgative, and until its effect is produced, only cooling drinks are to be allowed. After this clearing out of the canal, the "characteristic" part of the treatment commences. The peristaltic action of the intestines is to be checked and too rapid elimination prevented by constant counter-irritation by turpentine stupes to the abdomen, and enemata of Dover's powder and tannin in mucilage after every loose discharge; but in order to avoid the ill effects of the accumulation of the morbid material in the intestinal canal, a course is pursued which has for its object to disinfect its contents and render their continuance within the body innocuous. To this end he gives a solution of chlorine, formed by the action of hydrochloric acid on chlorate of potash, and the gradual addition of water, with repeated shakings. This must be prepared fresh twice daily. As the solution contains, also, free acid, a tonic effect is likewise obtained by its use. He recommends, in addition, enemata of solution of chlorine or of carbolic acid, but these he has not yet tried himself.

The theory of locking up noxious material in the intestines and then endeavoring to neutralize its effects there, certainly seems at first rather startling; but perhaps

Mr. Yeo's treatment is not practically so different from that ordinarily pursued as he appears to think it. Few physicians, we believe, would hesitate to check diarrhoea in typhoid fever, at least if it existed to any extent, and Mr. Yeo apparently does not mean to advise entire inaction of the bowels. As regards elimination, it is generally sought in this disease through the kidneys, lungs and skin, and not through the intestines. Mr. Yeo, while carefully giving the effect of Dover's powder in checking the peristaltic action of the intestines and the secretion of their mucous membrane, does not appear to consider its stimulating effect on the secretions of the skin and lungs, and while he states that there are many details of treatment to which he has not alluded, he does give enough to show that he is far from neglecting, whether intentionally or not, the promotion of elimination through the different emunctories of the body. "Cooling drinks of citrate of potash and acetate of ammonia" certainly stimulate the action of the skin and kidneys, and "sponging with vinegar and water, with frequent changes of bed linen," can hardly be supposed to be advised for the purpose of checking elimination. Considering this portion of Mr. Yeo's treatment, and while in ignorance of the "many details of treatment to which he has not alluded," we can scarcely consider him justified in his statement that "it is our duty to do precisely the opposite of assisting nature in her eliminative efforts," for it does not appear that he acts upon that opinion in his practice. In the absence of reported cases, and in view of the somewhat loose statement that, "of late" and "when the patient has been seen early, I have never seen a single fatal termination," it appears not unfair to hesitate before accepting the conclusion that this method of treatment is preferable to that generally adopted. With regard to the carbolic acid enemata advised, but without personal experience of their effect, by Mr. Yeo, although the extensive use of that agent of late seems to have been followed by no unpleasant effects, yet it may be well to bear in mind the statement of S. Weir Mitchell in a recent article on the Toxicology of the Rattle-snake Venom, in

the *New York Medical Journal*. "I am sure I shall startle some of my brethren who are using carbolic acid so profusely, when I state that this agent is a poison so active in animals as to make it difficult to use it as an antidote without extreme risk to the life we seek to save. One drop of the pure acid rubbed on the breast of a pigeon may cause death, and two or three drops given internally, occasion in the rabbit terrible convulsions and a fatal result. Even half a drop used subdermally is dangerous to young pigeons, so that the utmost caution was required to insure that we did not make the remedy worse than the disease." The use of a solution of chlorine gas in various fevers is not new, and it may be of value in typhoid fever, from its real or supposed alterative and purifying effect upon the blood; but this gas very readily combines with hydrogen or alkalies, and would probably form a combination with some one or more of these soon after its entrance into the stomach; that it would, as Mr. Yeo supposes, even in part, pass free along the intestinal canal to its lower portion, where the noxious material eliminated is collected, and there act as a direct disinfectant, we think would be very improbable.

W.

DECOLORIZED TINCTURE OF IODINE.—We would refer our correspondent in the issue of the 20th ult., who failed to get the promised result from Dr. Boulton's Tincture of Iodine and Carbolic Acid, to Mr. R. A. Payne, apothecary at the City Hospital, who has made for our use the decolorized Tincture of Iodine according to the formula given in the "*Journal des Connaissances Médicales*," wholly free from color, and without the use of ammonia. It is only necessary that the mixture should be placed in the sun a few hours to bring about the change of color. With stronger solutions the process has failed.

CORRECTION. *To the Editor, &c.*—In the last number of your JOURNAL, in an article "On Bromide of Potassium as counteracting the Nausea attending Etherization," Dr. A. J. Stone, inadvertently, as I believe, quotes me as stating that in this hospital "nausea is invariable after the inhalation

of ether, while nine tenths of the patients vomit freely."

When Dr. Stone requested information as to the proportion of cases in which nausea followed etherization, I wrote him that I could not give him exact information, having no statistics with reference to that point; but that "if patients had taken food recently, or were kept long under the influence of ether, in the great majority of cases nausea would follow, and generally vomiting." I have seen too many cases where there was neither nausea or vomiting, to make such a statement as was reported.

JOSIAH L. HALE.

Mass. Gen. Hospital, Feb. 29, 1868.

MASSACHUSETTS MEDICAL COLLEGE.—The Annual Commencement for the conferring of medical degrees will take place at the Medical College on Wednesday, March 11. The exercises will commence at 11½ o'clock, A.M., with a prayer by President Thomas Hill, D.D., after which graduates will read selections from their dissertations. The degrees will then be conferred by the President, and the exercises will conclude with an address by Samuel Eliot, LL.D.

The Corporation and Board of Overseers of the University will be present on the occasion, and the Fellows of the Massachusetts Medical Society, all medical students, and all persons who may be interested in medical science, are hereby respectfully invited to be present.

GEORGE C. SHATTUCK, M.D.,
Dean of the Medical Faculty.
Wednesday, March 4, 1868.

DR. H. R. STORER has resigned the chair of Obstetrics at Berkshire Medical College, in consequence of its interfering with his practice in Boston.

BOYLSTON MEDICAL PRIZES.—The first prize for the year just closed has been awarded to Mr. C. B. Brigham, for an Essay on *Diabetes Mellitus*; and the second prize to Mr. C. P. Putnam, for an Essay on *Cell Growth*.

THE twenty-fifth annual commencement of Rush Medical College took place in Chicago on the 5th ult., and one hundred and twenty-six candidates received the degree of M. D., being the largest class, it is said, that ever left a western medical school. The valedictory address was delivered by Prof. R. L. Rea, and that to the graduating class by President Blaney.

Selections and Medical Items.

NEW METHOD OF TREATMENT FOR SUPRAACROMIAL DISLOCATION OF THE CLAVICLE.—In the Reports of the Medico-Chirurgical Society of Bordeaux, M. Bitot chronicles a case of this dislocation, successfully treated by a new method. A narrow, padded splint being placed over the acromion and greater part of the clavicle, was kept in place by bands passing over the splint above, and below under the perineum. The forearm was kept at the level of the elbow by vertical bands, and the whole limb fixed by bands passing around the body. An elastic band was added, to prevent loosening of the apparatus by movements of the patient. The treatment was continued during sixty days.

THE VACCINE CICATRIX.—Inoculation of vaccine lymph under the skin or on a mucous membrane produces a local pustule, which, five days after the operation, confers an immunity from the disease, and impedes all general eruptions. The fact has been proved by a very ingenious experiment. After inoculating a calf by the usual method, M. Chauveau, the well-known physiologist and veterinarian of Lyons, cuts out the part, and allows the wound to heal. On the eighth day, a general eruption takes place, showing that the vaccine lymph had really entered the blood, and produced a general disease; but that the presence of the local pustule prevented it from showing itself by an external manifestation.—*Med. Times and Gazette.*

It would be interesting to know whether in some cases of exemption from disease after exposure to smallpox, no vaccine cicatrix being apparent, though there had been previous vaccination, there was not a general eruption at the time of the vaccination.

VERTEBRAL POLYARTHRITIS.—M. Broca, Malgaigne's successor at the Faculty of Medicine, has brought this affection before the Surgical Society of Paris, and gives further developments in a letter to the *Tribune Médicale*. Sir B. Brodie, and Delpach after him, have described a malady attacking the inter-vertebral substance without causing any caries of the bodies of the vertebrae. M. Nichet (1840) has also shown that the discs may be primitively affected. M. Broca has studied the disease anatomically and clinically; and, though he is not positive as to an inflammatory origin, he clearly states that, in a case he examined after death, the inter-vertebral substance of the last dorsal and all the lumbar vertebrae was destroyed, an abscess having formed in front of the spine; but the bodies of the vertebrae had remained unaffected. Clinically, he considers that, when five or six of the discs are destroyed, a sinking of the column is observed.—*Lancet.*

THE Medical Faculty of Harvard College entertained the Medical Class at the Revere House, on Friday evening last. The Mayor, and other physicians of note, were present; and the occasion was a very pleasant termination of the winter lecture term.

At the annual commencement of the Buffalo Medical College, on the 25th ult., the degree of M.D. was conferred upon forty candidates. The charge to the class was delivered by Dr. J. F. Miner, and the valedictory address by Dr. Matthew Willoughby, member of the graduating class.

MEDICAL DIARY OF THE WEEK.

MONDAY, 8 A.M., Massachusetts General Hospital, Med. Clinic; 9 A.M., Medical Lecture. 9 A.M., City Hospital, Ophthalmic Clinic.

TUESDAY, 9 A.M., City Hospital, Medical Clinic; 10 A.M., Medical Lecture. 9 to 11 A.M., Boston Dispensary. 10-11 A.M., Massachusetts Eye and Ear Infirmary.

WEDNESDAY, Massachusetts General Hospital, Surgical Clinic; 9 A.M., City Hospital, Ophthalmic Clinic. 9 A.M., Chelsea Marine Hospital.

THURSDAY, 8 and 9 A.M., Massachusetts Gen. Hospital, Medical Clinic and Lecture. 10-11 A.M., Massachusetts Eye and Ear Infirmary.

FRIDAY, 9 A.M., City Hospital, Ophthalmic Clinic; 10 A.M., Surgical Visit; 11 A.M., OPERATIONS. 9 to 11 A.M., Boston Dispensary.

SATURDAY, 10 A.M., Massachusetts General Hospital, Surgical Visit; 11 A.M., OPERATIONS.

A Bulletin of Expected Operations, in both the Hospitals, will be found, weekly, at the office of the Boston Medical and Surgical Journal, and at Messrs. Codman & Shurtleff's, 13 and 15 Tremont Street.

NOTICE.—The Index to the 77th volume of this Journal, which has been delayed on account of the pressure of other work in the printing office, will be forwarded to subscribers in the issue of next or the following week.

ERRATUM.—On page 59, in last week's issue, second column, bottom line, for "Almlich" read *ethnical*.

TO CORRESPONDENTS.—Communications accepted:—Boston Lunatic Hospital Report, No. L—Cases of Compound Fracture at the Massachusetts General Hospital.—On Retinitis Pigmentosa.—A Case of Progressive Locomotor Ataxy.—A case of Cancer.—Ruptured Primum treated by a new Method.

BOOKS RECEIVED.—A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M.D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York, Physician to Bellevue Hospital, &c. With two hundred and nineteen illustrations. Philadelphia: Henry C. Lea. 1868.—The Principles and Practice of Obstetrics. By Gunning S. Bedford, A.M., M.D., Professor of Obstetrics, &c. Fourth Edition. New York: W. Wood & Co. 1868.

MARRIED.—In Georgetown, 29th ult., A. L. Scott, M.D., of this city, to Miss Eliza M. Lovering, of Georgetown.

DEATHS IN BOSTON for the week ending Saturday noon, February 29th, 1868, 103: Males, 61—Females, 42. Accidents, 1—Inflammation of the bowels, 3—Congestion of the brain, 1—Disease of the brain, 2—Inflammation of the brain, 1—Bronchitis, 3—Cancer, 1—Consumption, 23—Convulsions, 3—Croup, 3—Dehility, 1—Diarrhoea, 1—Diphtheria, 1—Dropsy of the brain, 1—Drowned, 2—Dysentery, 2—Erysipelas, 3—Exhaustion, 1—Scarlet fever, 5—Disease of the heart, 3—Disease of the hip, 1—Hernia, 1—Insanity, 1—Intemperance, 1—Disease of the liver, 1—Congestion of the lungs, 2—Inflammation of the lungs, 6—Marasmus, 1—Old age, 5—Paralysis, 2—Peritonitis, 1—Premature birth, 2—Puerperal disease, 1—Pyæmia, 4—Seroful, 1—Smallpox, 1—Strangulation, 1—Teething, 1—Unknown, 9—Uremia, 1.

Under 5 years of age, 29—between 5 and 20 years, 11—between 20 and 40 years, 26—between 40 and 60 years, 20—above 60 years, 17. Born in the United States, 71—Ireland, 25—other places, 7.